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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,703	01/21/2004	Haishan Zeng	2055/40820/2	3688
279 7590 09/24/2007 Trexler, Bushnell, Giangiorgi, Blackstone & Marr, Ltd. 105 West Adams Street Suite 3600 Chicago, IL 60603			EXAMINER CHAO, JUSTIN	
			ART UNIT 3709	PAPER NUMBER
			MAIL DATE 09/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/761,703

Applicant(s)

ZENG, HAISHAN

Examiner

Justin Chao

Art Unit

3709

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on papers through 1/21/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/28/04, 9/17/04, 9/27/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "10" has been used to designate both "collection arm" and "fiber bundle" (p. 10).
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 2, 12, 13, 14, 16, 18 and 22 Fig 1; and 2 Fig 8.
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "proximal end 112" (p. 18), and "fibers 40" (p. 20).
5. The drawings are objected to because it is believed "filter adapter 122" (p. 20) is in error for --filter adapter 120--.
6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

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changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. The disclosure is objected to because of the following informalities: it is believed "collection fibers1 80" is in error for "collection fibers 180" (p. 17, para 2).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear from the specification as to the meaning of OD and the corresponding parameter in the structural limitation "wherein said notch filter has an OD greater than 6.0 at 785 nm."

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Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1, 8-23, 30-48, 52-65 rejected under 35 U.S.C. 103(a) as being unpatentable over Zeng 6,486,948 in view of Zeng 6,069,689.

12. Regarding claim 1, Zeng '948 discloses: at least one illumination fiber (6 fig 5) and a plurality of collection fibers (10, 46 fig 5), a band-pass filter (34 fig 5; col 8, l. 54 - col 9, l. 10) and a notch filter (30 fig 5; col 8, l. 54 - col 9, l. 10), and a round-to-parabolic linear array fiber bundle (10, 44, 46, 48 fig 5; col 9, ll. 11-34).

13. However, Zeng '948 does not disclose the following limitations: a short-pass filter on the end of at least one illumination fiber, a long-pass filter on the end of plurality of collection fibers.

14. Zeng '689 teaches within the same field of endeavor: a short-pass filter on the end of at least one illumination fiber (col 8, ll. 50-56 where a band-pass filter encompasses and would be an obvious variant of the short pass filter; col 10, ll. 26-28), a long-pass filter on the end of plurality of collection fibers (col 8, ll. 56-59).

15. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Zeng '948 in view of Zeng '689 in order to "[eliminate] any Raman signals generated by the illumination fiber" and "[block] elastically scattered laser light" as taught by Zeng '689.

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16. Regarding claims 8, 30, and 52, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above.

17. However, Zeng '948 in view of Zeng '689 does not positively disclose: a band-pass filter transmitting in a range around 785 nm.

18. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a band-pass filter transmitting in a range around 825 nm since it has been held that discovering the optimum or workable range involves only ordinary skill in the art. See MPEP 2144.05. *In re Aller*, 105 USPQ 233.

19. Regarding claims 9, 31, and 53, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above.

20. However, Zeng '948 in view of Zeng '689 does not positively disclose: a band-pass filter range plus-or-minus 2.5 nm.

21. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a band-pass filter range plus-or-minus 2.5 nm since it has been held that discovering the optimum or workable range involves only ordinary skill in the art. See MPEP 2144.05. *In re Aller*, 105 USPQ 233.

22. Regarding claims 10, 32, and 54, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above.

23. However, Zeng '948 in view of Zeng '689 does not positively disclose: a notch filter with OD greater than 6.0 at 785 nm.

24. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a notch filter with OD greater than 6.0 at 785 nm since it has been held

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that discovering the optimum or workable range involves only ordinary skill in the art.

See MPEP 2144.05. *In re Aller*, 105 USPQ 233.

25. Regarding claims 11, 33, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses means for delivering illumination light to filter adapter (6 fig 5) and wherein filter adapter further comprises a collimating lens (42 fig 5).

26. Regarding claims 12, 20, 42 and 34, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses: a laser (col 7, ll. 11-16).

27. Regarding claims 13, 35, and 62, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above.

28. However, Zeng '948 does not disclose: a focusing lens between band-pass filter and illumination fiber.

29. Zeng '689 teaches within the same field of endeavor: a focusing lens between band-pass filter and illumination fiber (73 fig 9; 12 fig 1; col 9, ll. 43-48).

30. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Zeng '948 in view of Zeng '689 in order to provide "probe means to conduct the illumination light from the light source to the disease site" as taught by Zeng '689 (col 6, ll. 3-5).

31. Regarding claims 14 and 36, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses a collimating lens (15 fig 5) between sample (9 fig 5) and notch filter (30 fig 5).

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32. However, Zeng '948 does not disclose: a plurality of collection fibers, wherein collimating lens is between plurality of collection fibers and filter.

33. Zeng '689 teaches within the same field of endeavor: a plurality of collection fibers, wherein collimating lens is between plurality of collection fibers and filter (10 fig 1; col 7, l. 66 - col 8, l. 11).

34. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Zeng '948 in view of Zeng '689 in order to provide "probe means to conduct the illumination light from the light source to the disease site" as taught by Zeng '689 (col 6, ll. 3-5).

35. Regarding claims 15 and 37, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses: a focusing lens (17 fig 5) between notch filter (30 fig 5) and round-to-parabolic linear array fiber bundle (10, 46, 48 fig 5).

36. Regarding claim 16, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses: means for delivering illumination light to filter adapter (6 fig 5), a collimating lens (42 fig 5) between means for delivering (6 fig 5) and band-pass filter (34 fig 5), and a focusing lens (17 fig 5) between notch filter (30 fig 5), a collimating lens (15 fig 5) between sample (9 fig 5) and notch filter (30 fig 5), and round-to-parabolic linear array fiber bundle (10, 46, 48 fig 5).

37. However, Zeng '948 does not disclose: a focusing lens between band-pass filter and illumination fiber, and a plurality of collection fibers, wherein collimating lens is between plurality of collection fibers and filter.

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38. Zeng '689 teaches within the same field of endeavor: a focusing lens between band-pass filter and illumination fiber (73 fig 9; 12 fig 1; col 9, ll. 43-48), a plurality of collection fibers, wherein collimating lens is between plurality of collection fibers and filter (10 fig 1; col 7, l. 66 - col 8, l. 11).

39. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Zeng '948 in view of Zeng '689 in order to provide "probe means to conduct the illumination light from the light source to the disease site" as taught by Zeng '689 (col 6, ll. 3-5).

40. Regarding claims 17, 39, and 55, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses: a quartz window (col 8, l. 66 - col 9, l. 1).

41. Regarding claims 18 and 56, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses: illumination light chosen at a wavelength to induce Raman scattering (col 7, ll. 11-20).

42. Regarding claims 19, 41 and 57, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses: monochromatic illumination light (col 7, ll. 11-20).

43. Regarding claims 21, 43, 58 and 59, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses: a diode laser (col 7, ll. 11-20).

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44. Regarding claims 22, 44, and 60, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses: illumination light at about 785 nm (col 7, ll. 11-20).

45. Regarding claim 23, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses: a spectrometer (col 8, ll. 27-53).

46. Regarding claim 45, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses: a plurality of collection fibers having a core diameter of about 100 μm (col 9, ll. 46-51).

47. Regarding claim 46, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses: the number and core diameter of plurality of collection fibers are selected to fill the vertical height of a detector of spectrometer (col 9, ll. 46-51).

48. Regarding claim 47, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses: a CCD (col 9, ll. 35-51).

49. Regarding claim 48, Zeng '948 discloses: providing illumination light (col 7, ll. 12-21), band-pass filtering (col 8, ll. 44-47), illuminating a subject (col 7, ll. 12-21), collecting a sample of light (col 8, l. 66 - col 9, l. 1), providing sample with a substantially inverse shape (col 9, ll. 11-34), passing sample through a plane grating (col 9, ll. 35-45), and performing Raman spectroscopic analysis (col 10, ll. 26-44).

50. However, Zeng '948 does not disclose the following limitations: short-pass filtering illumination light and long-pass filtering.

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51. Zeng '689 teaches within the same field of endeavor: short-pass filtering illumination light (col 8, ll. 50-56 where a band-pass filtering encompasses and would be an obvious variant of short-pass filtering; col 10, ll. 26-28) and long-pass filtering (col 8, ll. 56-59).

52. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Zeng '948 in view of Zeng '689 in order to "[eliminate] any Raman signals generated by the illumination fiber" and "[block] elastically scattered laser light" as taught by Zeng '689.

53. Regarding claim 61, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses collimating illumination light before band-pass filtering (42 fig 5; col 8, ll. 54-61).

54. Regarding claim 63, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses collimating sample before notch filtering step (15 fig 5; col 9, ll. 1-4).

55. Regarding claim 64, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above. Zeng '948 further discloses focusing sample after notch filtering step (17 fig 5; col 9, ll. 7-8).

56. Regarding claim 65, claim 16 discloses the apparatus as claimed and as discussed above. Therefore the method of using the apparatus is considered obvious to one of ordinary skill in the art at the time of the invention.

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57. Claims 2-7, 24-29, and 49-51 rejected under 35 U.S.C. 103(a) as being unpatentable over Zeng 6,486,948 in view of Zeng 6,069,689 further in view of Mitchell 5,521,703.

58. Regarding claims 2, 6, 24, 28, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above.

59. However, Zeng '948 in view of Zeng '689 does not disclose the following limitation: a short-pass filter comprising a coating.

60. Mitchell teaches within the same field of endeavor: a short-pass filter comprising a coating (col 4, ll. 45-60; col 8, ll. 32-52 teaching a wavelength filter coating which may be used as a short pass filter).

61. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Zeng '948 in view of Zeng '689 further in view of Mitchell in order to "[pass] the wavelengths of Raman scattered light and [reject] the laser wavelength" as taught by Mitchell (col 8, ll. 33-39).

62. Regarding claims 3, 5, 7, 25, 27, 29, 49, 50 and 51 Zeng '948 in view of Zeng '689 further in view of Mitchell discloses the invention as claimed and as discussed above.

63. However, Zeng '948 in view of Zeng '689 further in view of Mitchell does not positively disclose: a short-pass filter with cut-off wavelength of about 825 nm, and a long-pass filter with cut-off wavelength of about 825 nm.

64. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a short-pass or long-pass filter with cut-off wavelength of about 825 nm

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since it has been held that discovering the optimum or workable range involves only ordinary skill in the art. See MPEP 2144.05. *In re Aller*, 105 USPQ 233.

65. Regarding claims 4 and 26, Zeng '948 in view of Zeng '689 discloses the invention as claimed and as discussed above.

66. However, Zeng '948 in view of Zeng '689 does not disclose the following limitation: a long-pass filter comprising a coating.

67. Mitchell teaches within the same field of endeavor: a long-pass filter comprising a coating (col 4, ll. 45-60; col 8, ll. 32-52 teaching a wavelength filter coating which may be used as a long pass filter).

68. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Zeng '948 in view of Zeng '689 further in view of Mitchell in order to "[pass] the wavelengths of Raman scattered light and [reject] the laser wavelength" as taught by Mitchell (col 8, ll. 33-39).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Chao whose telephone number is 571-270-3072. The examiner can normally be reached on Mon-Fri, alt Fri off, 7:30-5:00 EST.

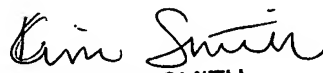
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Justin Chao/

6/19/07


KIMBERLY S. SMITH
PRIMARY EXAMINER